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28 citations

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2 cites

1 cite

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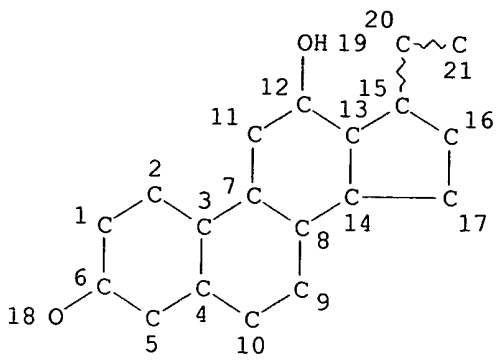

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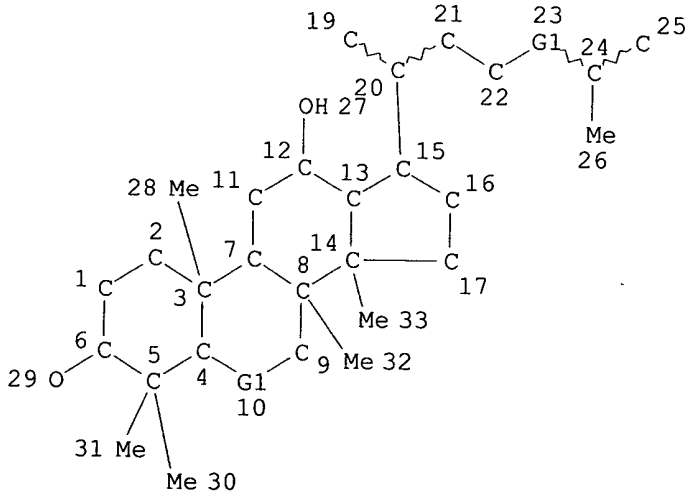

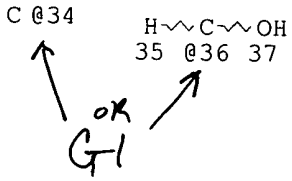

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NUMBER OF NODES IS 36

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14 cpds

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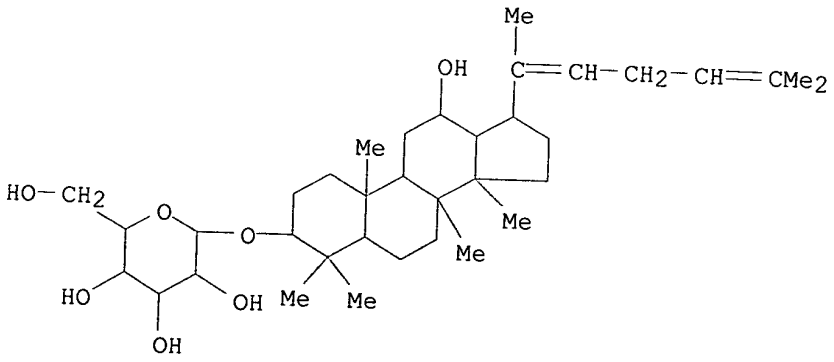
L20 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:888934 HCAPLUS
DOCUMENT NUMBER: 135:371954
TITLE: Process for preparation of rare-ginsenosides
INVENTOR(S): Xu, Jingda; Jin, Yongri; Li, Xuwen; Song, Changchun; Cong, Dengli
PATENT ASSIGNEE(S): Science and Technology Development Co., Basic Medical College, Baiqiu'en Medical Univ., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1293198	A	20010502	CN 2000-123074	20001010

AB Ginsenosides were prepd. from the hydrolyzation of ginsenoside monomer or its mixt. with 3-15% KOH or NaOH in high boiling-point alc. (such as glycol, propanediol, 1,3-butanediol, 1,4-butanediol, glycerol, diglycol, or polyethylene glycol with mol. wt. <700), at 180-270.degree., cooled to room temp., dild. with water, then extd. with org. solvent (such as chloroform, Et acetate or butanol), or sepd. with macroporous resin. Thus, 10 g NaOH disolved in 100 mL glycol, add 10 g ginsenosides, hydrolyzed at 190.degree. for 1 h, cooled to the room temp., added 50 times water, extd. with Et acetate, gave 7 g product, TLC confirmed it contained ginsenoside Rg3, Rh2, Rh1, Rg2, protpanaxadiol, and protpanaxatriol.

IT **105558-26-7P**, Ginsenoside Rh3
RL: SPN (Synthetic preparation); PREP (Preparation)
(process for prepn. of rare-ginsenosides)

RN 105558-26-7 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L20 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:887103 HCAPLUS
DOCUMENT NUMBER: 137:72700
TITLE: Cancer chemopreventive compounds of red ginseng

Searched by Susan Hanley 305-4053

produced from Panax ginseng C.A. Meyer

AUTHOR(S): Yun, Taik-Koo; Lee, Yun-Sil; Lee, You Hui; Yun, Hyo Yung

CORPORATE SOURCE: Laboratory of Experimental Pathology, Korea Cancer Center Hospital, Seoul, S. Korea

SOURCE: Journal of Ginseng Research (2001), 25(3), 107-111
CODEN: JGREF7; ISSN: 1226-8453

PUBLISHER: Korean Society of Ginseng

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Fresh Panax ginseng C.A. cultivated in Korea (Korean red ginseng) was found to be ineffective as an anticarcinogenic or cancer preventive in exptl. animal model or in human case-control and cohort study. However, when treated with heat, the fresh ginseng, white ginseng and red ginseng were highly effective cancer preventives. Four compds. including 20(S)-ginsenoside Rh1 (Rh1), 20(S)-ginsenoside Rh2 (Rh2), 20(S)-ginsenoside Rg3 (Rg3) and ginsenoside Rg5 were consequently purified from Korean red ginseng, and they were tested by Yun's 9 wk medium-term anti-carcinogenicity test model. Rg3 and Rg5 statistically significantly decreased the incidence of benzo(a)pyrene-induced mouse lung tumor, Rh2 showed tendency of decrease, whereas Rh1 showed no effect. It is, therefore, concluded that Rg3 and Rg5 are active anticarcinogenic components in red ginseng and they either singularly or synergistically act in the prevention of cancer.

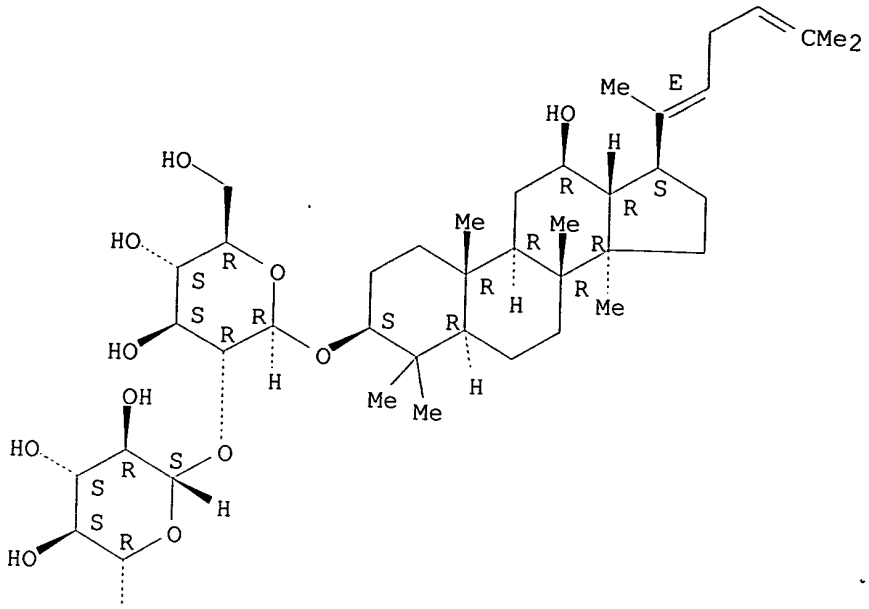
IT **186763-78-0**, Ginsenoside Rg5
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cancer chemopreventive compds. of red ginseng produced from Panax ginseng C.A. Meyer)

RN 186763-78-0 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:448497 HCAPLUS
DOCUMENT NUMBER: 135:294045
TITLE: Liquid chromatographic determination of less polar ginsenosides in processed ginseng
AUTHOR(S): Kwon, S. W.; Han, S. B.; Park, I. H.; Kim, J. M.; Park, M. K.; Park, J. H.
CORPORATE SOURCE: College of Pharmacy, Research Institute of Pharmaceutical Science, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: Journal of Chromatography, A (2001), 921(2), 335-339
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Reversed-phase LC with an evaporative light scattering detector (ELSD) is used for the detn. of less polar ginsenosides in processed ginseng. These ginsenosides include ginsenosides F4, Rg3, Rg5, Rg6, Rk1, Rk3, Rs3, Rs4, and Rs5. The method used a C18-bonded silica column with a CH3CN/H2O/CH3COOH gradient elution. (20R) and (20S) epimers and geometric

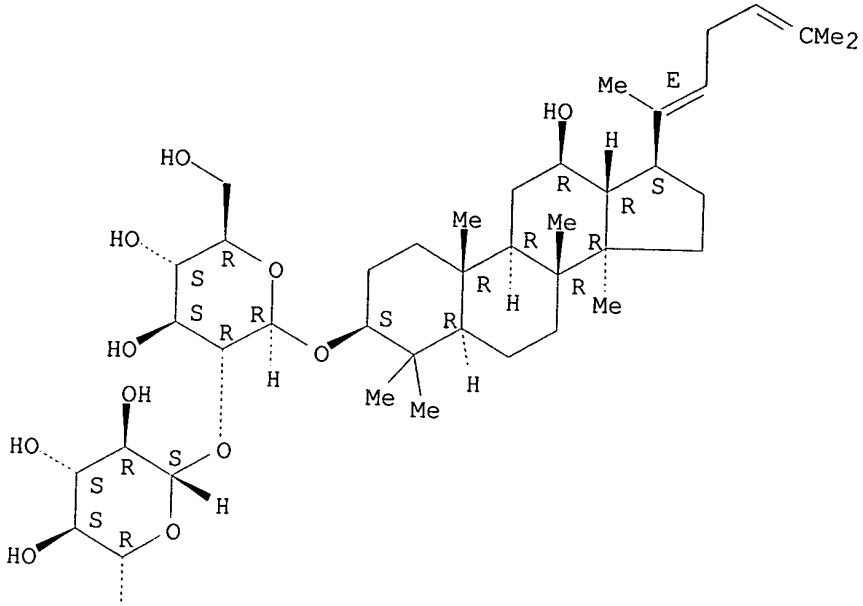
isomers at the C-20 position of ginsenosides, which are not generally sepd. by amino columns, were now clearly sepd.

IT **186763-78-0**, Ginsenoside Rg5 **195711-64-9**, Ginsenoside Rs4 **364779-14-6 364779-16-8**
RL: ANT (Analyte); ANST (Analytical study)
(liq. chromatog. detn. of less polar ginsenosides in processed ginseng)

RN 186763-78-0 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

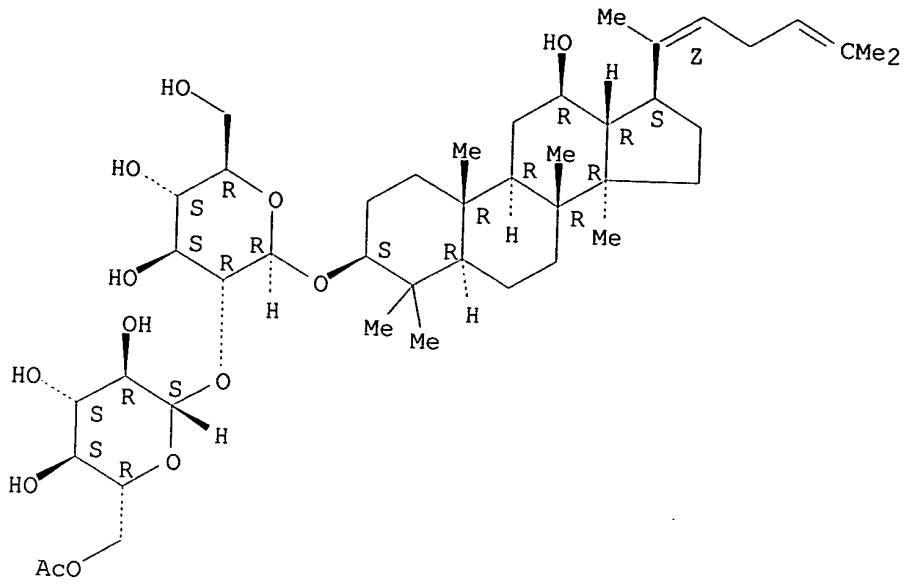
PAGE 1-A



PAGE 2-A

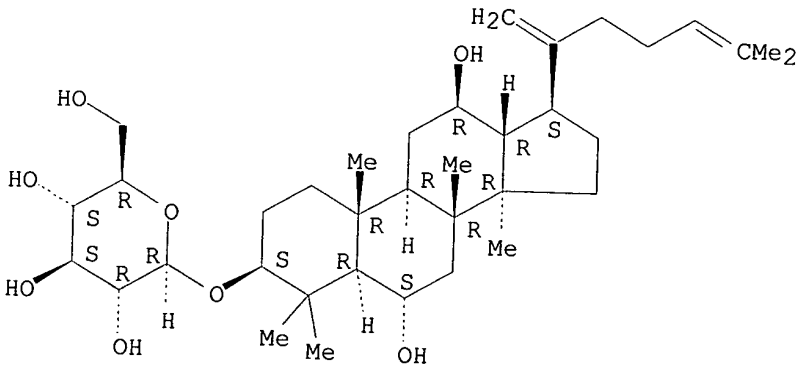
RN 195711-64-9 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-(6-O-acetyl-.beta.-D-glucopyranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



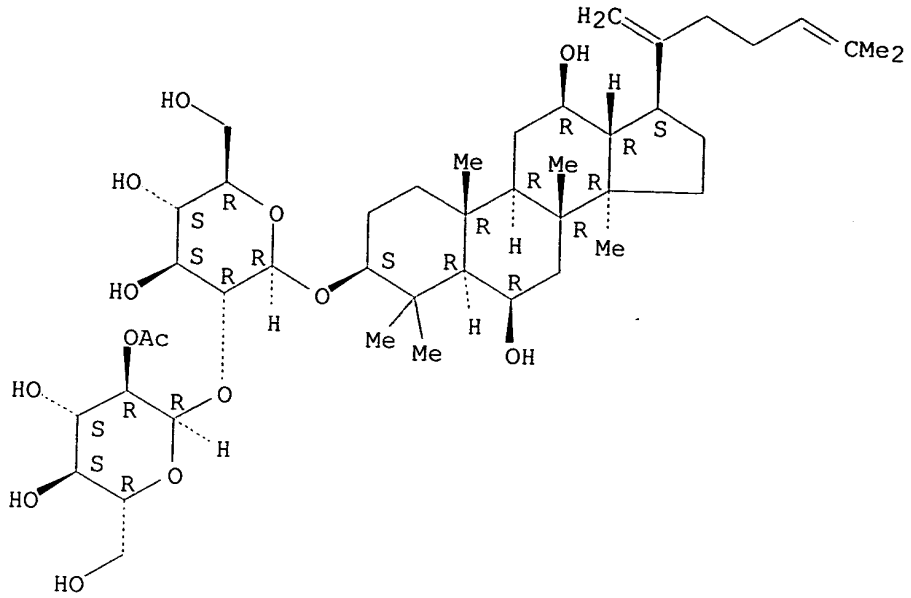
RN 364779-14-6 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,6.alpha.,12.beta.)-6,12-dihydroxydammara-20,24-dien-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 364779-16-8 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,6.alpha.,12.beta.)-6,12-dihydroxydammara-20,24-dien-3-yl 2-O-(2-O-acetyl-.alpha.-D-glucopyranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:149688 HCAPLUS
DOCUMENT NUMBER: 134:205077
TITLE: NMR signal complete assignments of three protopanaxodiol monodesmosides from Panax notoginseng
AUTHOR(S): Teng, Rong-wei; Li, Hai-zhou; Wang, De-zu; He, Yi-neng; Yang, Chong-ren
CORPORATE SOURCE: Kunming Institute of Botany, The Chinese Academy of Sciences, Kunming, 650204, Peop. Rep. China
SOURCE: Bopuxue Zazhi (2000), 17(6), 461-468
CODEN: BOZAE2; ISSN: 1000-4556
PUBLISHER: Zhongguo Kexueyuan Wuhan Wuli Yanjiuso
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB Three protopanaxodiol monodesmosides isolated from mild acid hydrolysis products of root saponins of Panax notoginseng were identified as ginsenoside-Rg5, 20(R)-ginsenoside-Rg3 and 20(S)-ginsenoside-Rg3. The complete assignments of 1H and 13C NMR chem. shifts of these glycosides were obtained by means of 2D NMR techniques, such as 1H-1H COSY, TOCSY, ROESY, HMBC as well as HMQC. The differences of chem. shifts of 20(R)- and 20(S)-isomer were discussed.

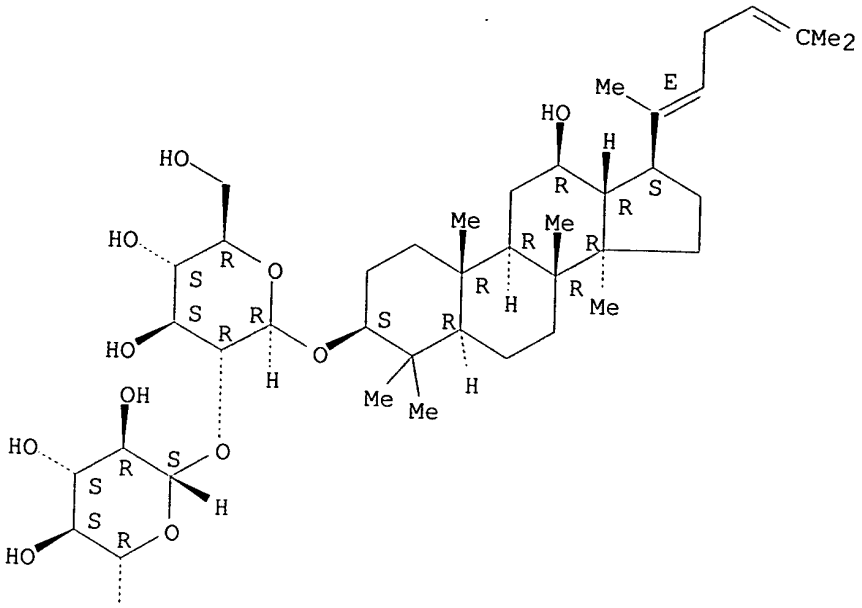
IT **186763-78-0P**, Ginsenoside Rg5
RL: PRP (Properties); PUR (Purification or recovery); PREP (Preparation) (NMR signal complete assignments of protopanaxodiol monodesmosides from Panax notoginseng)

RN 186763-78-0 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L20 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:746388 HCAPLUS
DOCUMENT NUMBER: 134:61327
TITLE: Steaming of Ginseng at High Temperature Enhances Biological Activity
AUTHOR(S): Kim, Wang Yu; Kim, Jong Moon; Han, Sang Beom; Lee, Seung Ki; Kim, Nak Doo; Park, Man Ki; Kim, Chong Kook; Park, Jeong Hill
CORPORATE SOURCE: Research Institute of Pharmaceutical Sciences College of Pharmacy, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: Journal of Natural Products (2000), 63(12), 1702-1704
CODEN: JNPRDF; ISSN: 0163-3864
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The present study was performed to evaluate the effect of steaming ginseng at a temp. over 100 .degree.C on its chem. constituents and biol. activities. Raw ginseng was steamed at 100, 110, and 120 .degree.C for 2 h using an autoclave. The ginseng steamed at 120 .degree.C was more potent in its ability to induce endothelium-dependent relaxation. Steaming the raw ginseng at 120 .degree.C also remarkably increased the radical-scavenging activity. Ginsenosides F4, Rg3, and Rg5, which were

not present in raw ginseng, were produced after steaming. Ginsenosides Rg3 and Rg5 were the most abundant ginsenosides in the ginseng steamed at 120 .degree.C, accounting for 39% and 19% of all ginsenosides, resp.

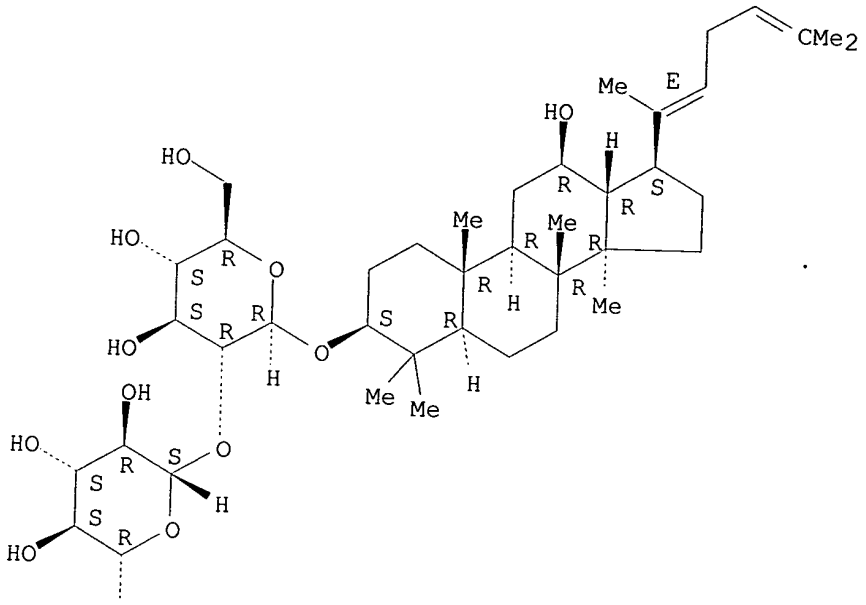
IT **186763-78-0**, Ginsenoside Rg5
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(steaming of Ginseng at high temp. enhances biol. activity)

RN 186763-78-0 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



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L20 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:168451 HCAPLUS
DOCUMENT NUMBER: 133:147472
TITLE: Isolation and identification of 20(S)-ginsenoside-Rh1, -Rh2 and ginsenoside-Rh3 from leaves of Panax

Searched by Susan Hanley 305-4053

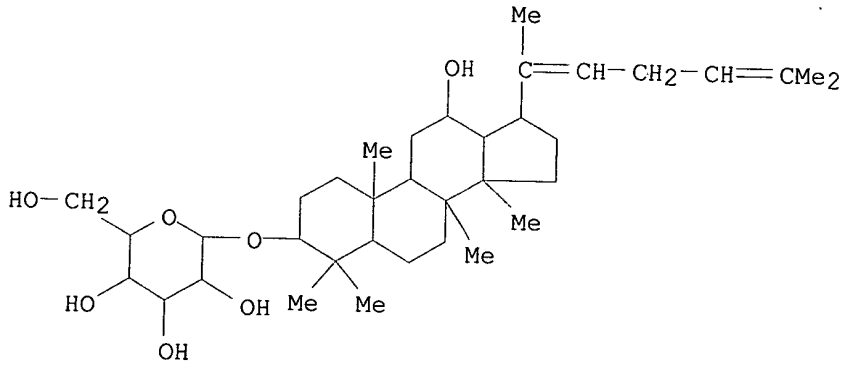
quinquefolium

AUTHOR(S): Cong, Dengli; Song, Changchun; Xu, Jingda
CORPORATE SOURCE: Norman Bethune University of Medical Sciences, Changchun, 130021, Peop. Rep. China
SOURCE: Zhongguo Yaoxue Zazhi (Beijing) (2000), 35(2), 82-84
CODEN: ZYZAEU; ISSN: 1001-2494
PUBLISHER: Zhongguo Yaoxuehui
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB 20(S)-Ginsenoside-Rh1, -Rh2 and ginsenoside-Rh3 were isolated from the leaves of Panax quinquefolium L. and identified. The 3 compds. were extd. by water and absorbed by Macro-reticular resins, then eluted with EtOH and isolated by silica gel column chromatog.; the compds. were identified by means of phys. and chem. properties, IR, NMR, etc. Ginsenoside-Rh3 was isolated for the first time from the leaves of Panax quinquefolium L.

IT **105558-26-7**, Ginsenoside-Rh3
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Panax quinquefolium leaves)

RN 105558-26-7 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L20 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:245924 HCAPLUS
DOCUMENT NUMBER: 131:97063
TITLE: Ginsenoside-Rs4, a new type of ginseng saponin concurrently induces apoptosis and selectively elevates protein levels of p53 and p21WAF1 in human hepatoma SK-HEP-1 cells
AUTHOR(S): Kim, S. E.; Lee, Y. H.; Park, J. H.; Lee, S. K.
CORPORATE SOURCE: College of Pharmacy, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: European Journal of Cancer (1999), 35(3), 507-511
CODEN: EJCAEL; ISSN: 0959-8049
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In this paper, the authors present evidence that ginsenoside-Rs4 (G-Rs4; an acetylated analog of ginsenoside-Rg5), a new ginseng saponin isolated from Panax ginseng C. A. Meyer, elevates protein levels of p53 and p21WAF1, which are assocd. with the induction of apoptosis in SK-HEP-1

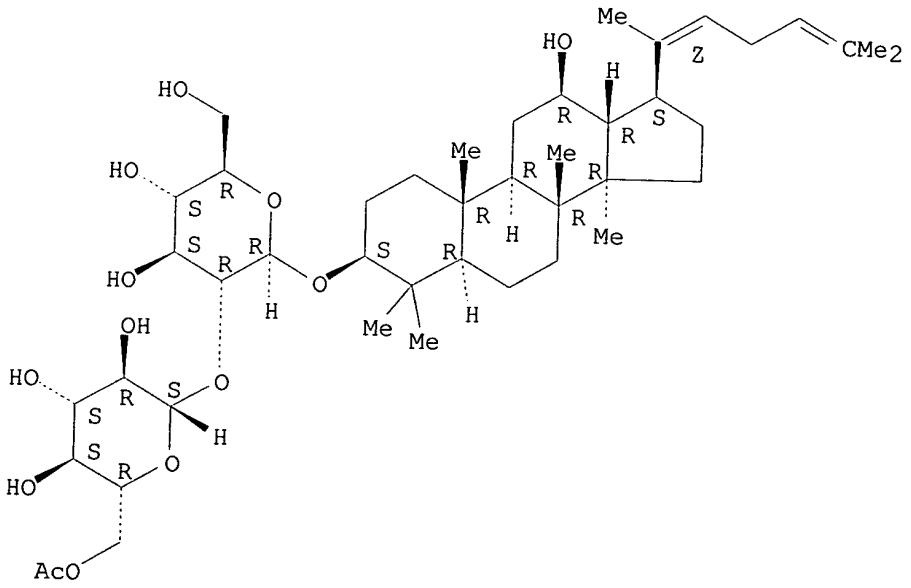
cells. Flow cytometric analyses showed that G-Rs4 initially arrested the cell cycle at the G1/S boundary, but consequently induced apoptosis as evidenced by generating an apoptotic peak. The induction of apoptosis was confirmed by the results of DNA fragmentation assays and alterations in cell morphol. after treatment of the cells with G-Rs4. Immunoblot assays showed that G-Rs4 significantly elevated protein levels of p53 and p21WAF1, concurrently with the downregulation of both cyclins E- and A-dependent kinase activities and induction of apoptosis. The authors suggest that G-Rs4 induces apoptosis, the effect of which is closely related to the downregulation of both cyclins E- and A-dependent kinase activity as a consequence of selectively elevating protein levels of p53 and p21WAF1 in SK-HEP-1 cells.

IT **195711-64-9**, Ginsenoside Rs4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenoside-Rs4 concurrently induces apoptosis and selectively elevates protein levels of p53 and p21WAF1 in human hepatoma SK-HEP-1 cells)

RN 195711-64-9 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-(6-O-acetyl-.beta.-D-glucopyranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:168726 HCAPLUS
DOCUMENT NUMBER: 131:13808
TITLE: Non-ginsenoside nicotinic activity in ginseng species
AUTHOR(S): Lewis, Rhiannon; Wake, George; Court, Gudrun; Court, Jenny A.; Pickering, Anne T.; Kim, Young C.; Perry,

Elaine K.
CORPORATE SOURCE: Medical Research Council Neurochemical Pathology Unit, Newcastle General Hospital, Newcastle-upon-Tyne, NE4 6BE, UK
SOURCE: Phytotherapy Research (1999), 13(1), 59-64
CODEN: PHYREH; ISSN: 0951-418X
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

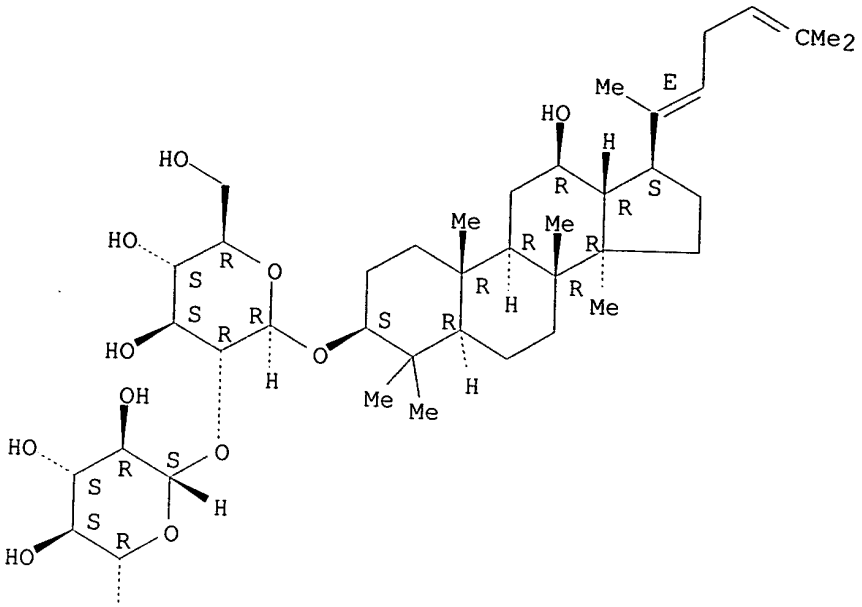
AB Amongst the many different therapeutic applications of ginseng are beneficial effects on age-related cognitive impairments. Aging in the brain is assocd. with a loss of nicotinic receptor binding and receptor stimulation increases binding. Stimulation of the CNS (central nervous system) nicotinic receptor is considered to be beneficial in relation to symptomatic treatment and neuroprotection in age-assocd. cognitive disorders which involve a further receptor loss. The authors assessed Panax ginseng, Panax quinquefolium and several chem. constituents of these plants for nicotinic activity based on displacement of 3H-(-)nicotine from human brain cerebral cortex membranes in vitro. Dose-dependent displacement was evident in crude ethanol exts. of Panax ginseng and Panax quinquefolium. Assay of an ext. of Panax ginseng showed the plant to have affinity for both the nicotinic receptor, and to a lesser extent the muscarinic receptor (IC50 2.12 mg/mL and 5.25 mg/mL resp.). Activity was largely conserved after the extn. of choline and other water sol. quaternary ammonium compds. (QAC), indicating that the activity of the plant exts. was not due to choline. Displacement binding assay of some purified chem. constituents, including a no. of ginsenosides, showed that these were not primarily responsible for Panax activity. The active chem. constituent has yet to be identified, but the demonstrated nicotinic activity of ginseng warrants further investigation with ref. to therapeutic activity in age-related conditions such as dementia.

IT **186763-78-0**, Ginsenoside Rg5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginseng constituents nicotinic activity in human cerebral cortex in vitro in relation to therapeutic effects in age-related cognitive impairments)

RN 186763-78-0 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:628673 HCAPLUS
DOCUMENT NUMBER: 129:298325
TITLE: Ginsenosides Rb1 and Rg3 protect cultured rat cortical cells from glutamate-induced neurodegeneration. [Erratum to document cited in CA129:225620]
AUTHOR(S): Kim, Young C.; Kim, So R.; Markelonis, George J.; Oh, Tae H.
CORPORATE SOURCE: College of Pharmacy, Seoul National University, Séoul, S. Korea
SOURCE: Journal of Neuroscience Research (1998), 54(1), 123
CODEN: JNREDK; ISSN: 0360-4012
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB On page 427, under the heading Assessment of Neurotoxicity in the Materials and Methods section, the formula given for the assessment of percentage cell viability was incorrect. The formula is correctly stated in a footnote to Table I on page 429. The correct formula is as follows: 100 .times. (OD of glutamate + ginsenoside-treated - OD of

glutamate-treated)/(OD of control - OD of glutamate-treated).

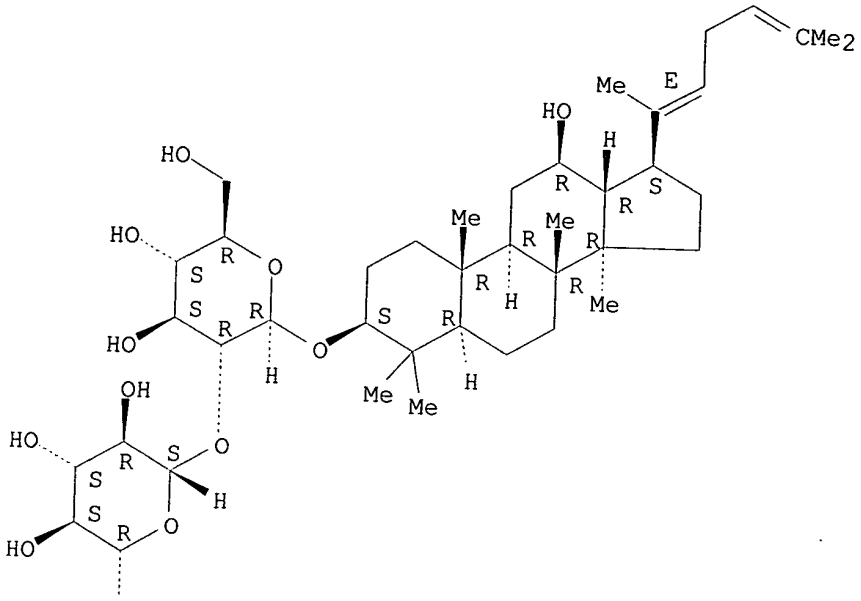
IT **186763-78-0**, Ginsenoside Rg5
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenosides Rb1 and Rg3 protect cultured rat cortical cells from glutamate-induced neurodegeneration (Erratum))

RN 186763-78-0 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L20 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:503283 HCAPLUS
DOCUMENT NUMBER: 129:225620
TITLE: Ginsenosides Rb1 and Rg3 protect cultured rat cortical cells from glutamate-induced neurodegeneration
AUTHOR(S): Kim, Young C.; Kim, So R.; Markelonis, George J.; Oh, Tae H.
CORPORATE SOURCE: College of Pharmacy, Seoul National University, Seoul, S. Korea
SOURCE: Journal of Neuroscience Research (1998), 53(4), 426-432

Searched by Susan Hanley 305-4053

CODEN: JNREDK; ISSN: 0360-4012
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Certain natural products and Asian herbal remedies have been used in Asia to attenuate neurodegenerative diseases, including senile dementia. We have examd. derivs. of several natural products for potential neuroprotective activity in an in vitro test system. In the present study, we assayed a no. of compds. that were isolated from Panzax ginseng C.A. Meyer (Araliaceae) for an ability to protect rat cortical cell cultures from the deleterious effects of the neurotoxicant, glutamate. We found that ginsenosides Rb1 and Rg3 significantly attenuated glutamate-induced neurotoxicity. Brief exposure of cultures to excess glutamate caused extensive neuronal death. Glutamate-induced neuronal cell damage was reduced significantly by pretreatment with Rb1 and Rg3. Ginsenosides Rb1 and Rg3 inhibited the overprodn. of nitric oxide, which routinely follows glutamate neurotoxicity, and preserved the level of superoxide dismutase in glutamate-treated cells. Furthermore, in cultures treated with glutamate, these ginsenosides inhibited the formation of malondialdehyde, a compd. that is produced during lipid peroxidn., and diminished the influx of calcium. These results show that ginsenosides Rb1, and Rg3 exerted significant neuroprotective effects on cultured cortical cells. Therefore, these compds. may be efficacious in protecting neurons from oxidative damage that is produced by exposure to excess glutamate.

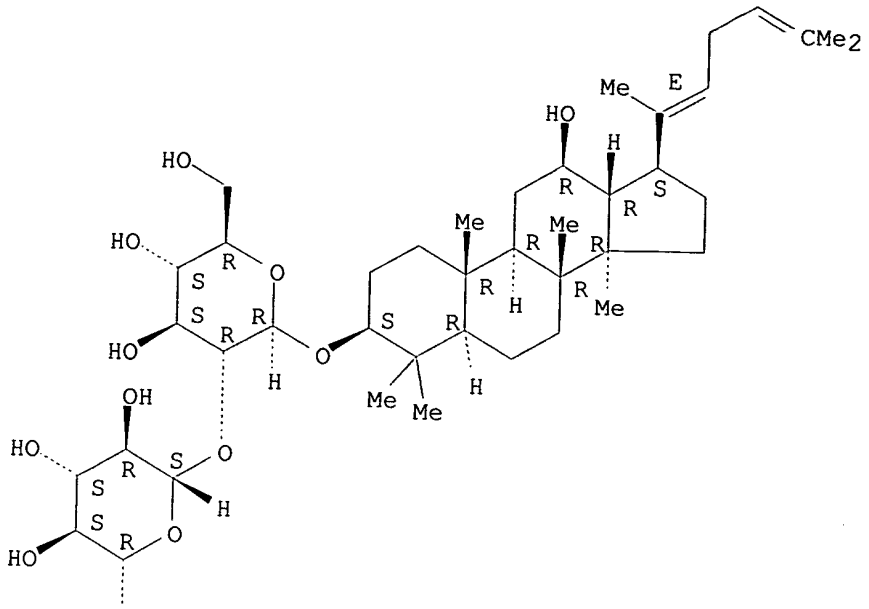
IT **186763-78-0**, Ginsenoside Rg5
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenosides Rb1 and Rg3 protect cultured rat cortical cells from glutamate-induced neurodegeneration)

RN 186763-78-0 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L20 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:331287 HCAPLUS
DOCUMENT NUMBER: 129:76131
TITLE: Ginsenoside Rh2 and Rh3 induce differentiation of HL-60 cells into granulocytes: modulation of protein kinase C isoforms during differentiation by ginsenoside Rh2
AUTHOR(S): Kim, Young Sook; Kim, Dong Seon; Kim, Shin Il
CORPORATE SOURCE: Korea Ginseng and Tobacco Research Institute, Taejon, 305-345, S. Korea
SOURCE: International Journal of Biochemistry & Cell Biology (1998), 30(3), 327-338
CODEN: IJBBFU; ISSN: 1357-2725
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

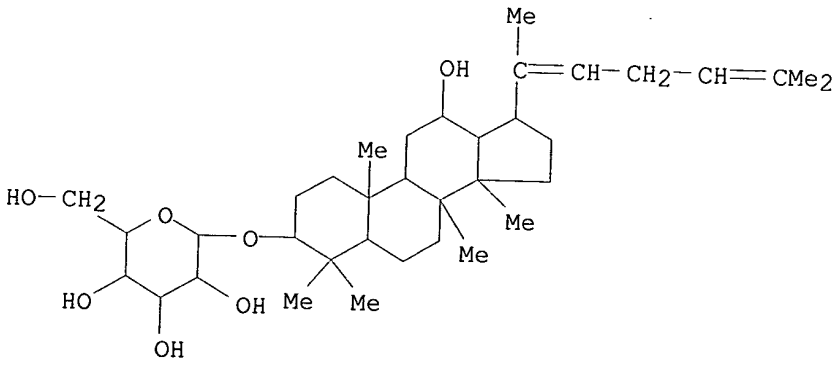
AB Ginsenoside Rh1 or Rh2 differentiated B16 melanoma or F9 teratocarcinoma to phenotypic normal melanocyte-like cells or parietal endoderm-like cells. Ginsenoside Rh3 and Rh4 were recently isolated from Panax ginseng, but their biochem. and pharmacol. effects remain unidentified. The present study investigated whether the ginsenoside Rh group (G-Rh1, -Rh2, -Rh3 and -Rh4) having similar structures induce differentiation of HL-60

cells and whether protein kinase C (PKC) is involved in differentiation by ginsenoside. Differentiation was assessed by Wright-Giemsa stain and nitroblue tetrazolium redn. G-Rh2 and G-Rh3 induced differentiation of HL-60 cells into morphol. and functionally granulocytes but G-Rh1 and G-Rh4 did not. G-Rh2 and G-Rh3 arrested the cell cycle at the G1/S phase, consistent with the ability to induce differentiation in a decreasing order of retinoic acid > G-Rh2 > G-Rh3. During differentiation by G-Rh2, Ca2+/phospholipid-dependent PKC activity was increased in both the cytosol and total cell ext. and Ca2+/phospholipid-dependent phosphorylation of 38 and 200 kDa endogenous proteins increased, while phosphorylation of 60, 64, 66 and 97 kDa proteins was Ca2+/phospholipid-independent. When cytosolic PKC isoforms were analyzed by immunoblotting, no significant change was obsd. in the .alpha. level, however, the immunoreactive 60 kDa band of a similar mass to the PKC catalytic fragment appeared following treatment with G-Rh2. The .beta. isoform was gradually increased with prolonged treatment. The .gamma. isoform was not detected in the cytosol of untreated cells, whereas a small amt. was detected 5 days after treatment. It is concluded that G-Rh2 and G-Rh3 can induce differentiation of HL-60 cells into granulocytes and modulation of PKC isoform levels may contribute to differentiation of HL-60 cells by G-Rh2.

IT **105558-26-7**, Ginsenoside Rh3
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(ginsenosides induce differentiation of HL-60 cells into granulocytes via modulation of protein kinase C isoforms)

RN 105558-26-7 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L20 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:75573 HCAPLUS

DOCUMENT NUMBER: 128:213344

TITLE: Platelet activating factor antagonist activity of ginsenosides

AUTHOR(S): Jung, Keun Young; Kim, Dong Seon; Oh, Sei Ryang; Lee, Im Seon; Lee, Jung Joon; Park, Jong Dae; Kim, Shin, II; Lee, Hyeong-Kyu

CORPORATE SOURCE: Natural Product Biosynthesis Research Unit, Korea Research Institute of Bioscience and Biotechnology, Taejon, 305-600, S. Korea

SOURCE: Biological & Pharmaceutical Bulletin (1998), 21(1), 79-80

PUBLISHER: CODEN: BPBLEO; ISSN: 0918-6158
Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English

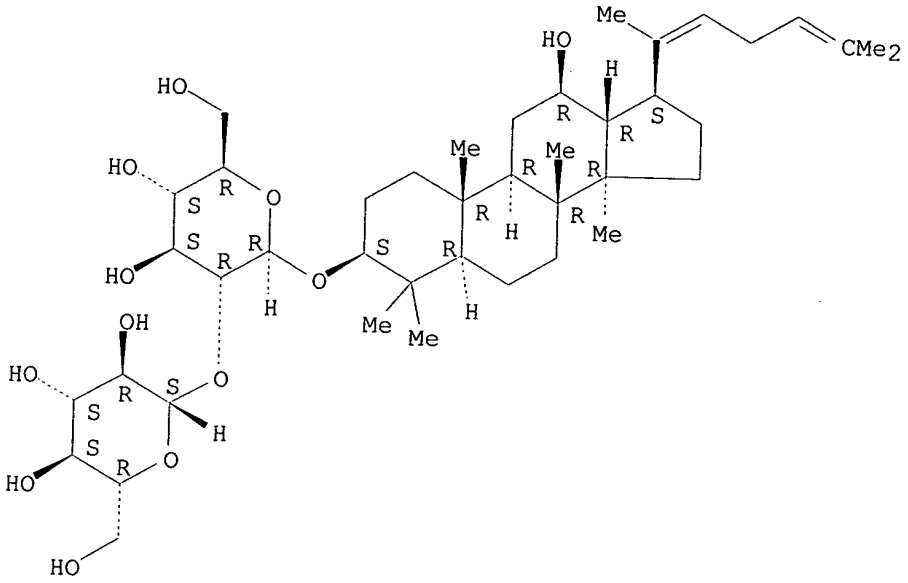
AB Ginseng saponins and their degrdn. products have been screened for antagonist activity towards [3H]PAF (platelet activating factor) in washed rabbit platelet receptor binding studies. 20(S)- and .DELTA.20-ginsenosides Rg3, protopanaxadiol-type saponins, were relatively potent PAF antagonists (IC50=4.9.times.10-5M and 9.2.times.10-5M, resp.).

IT **74964-14-0**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(platelet activating factor receptor antagonist activity of ginsenosides)

RN 74964-14-0 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L20 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:617930 HCAPLUS
DOCUMENT NUMBER: 127:248361

TITLE: Preparation of ginseng saponin oligosaccharides as antitumors

INVENTOR(S): Park, Man Ki; Lee, Seung Ki; Park, Jeong Hill; Kim, Jong Moon; Lee, Kwang Youl; Han, Sang Beom

PATENT ASSIGNEE(S): Cheil Je Dang Co., S. Korea; Park, Man Ki; Lee, Seung Ki; Park, Jeong Hill; Kim, Jong Moon; Lee, Kwang Youl; Han, Sang Beom

SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2

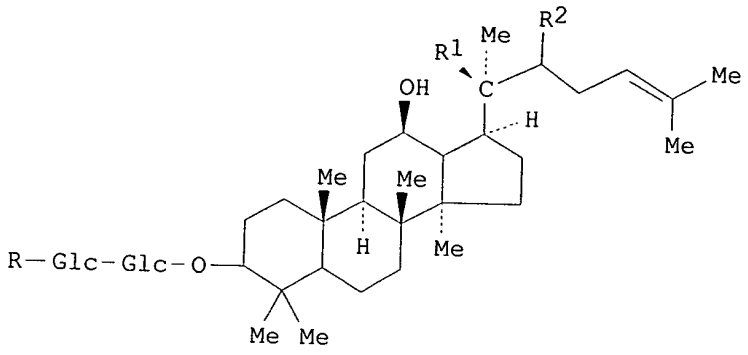
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9731933	A1	19970904	WO 1996-KR123	19960729
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9665334	A1	19970916	AU 1996-65334	19960729

PRIORITY APPLN. INFO.:
KR 1996-4879 19960227
WO 1996-KR123 19960729

GI



I

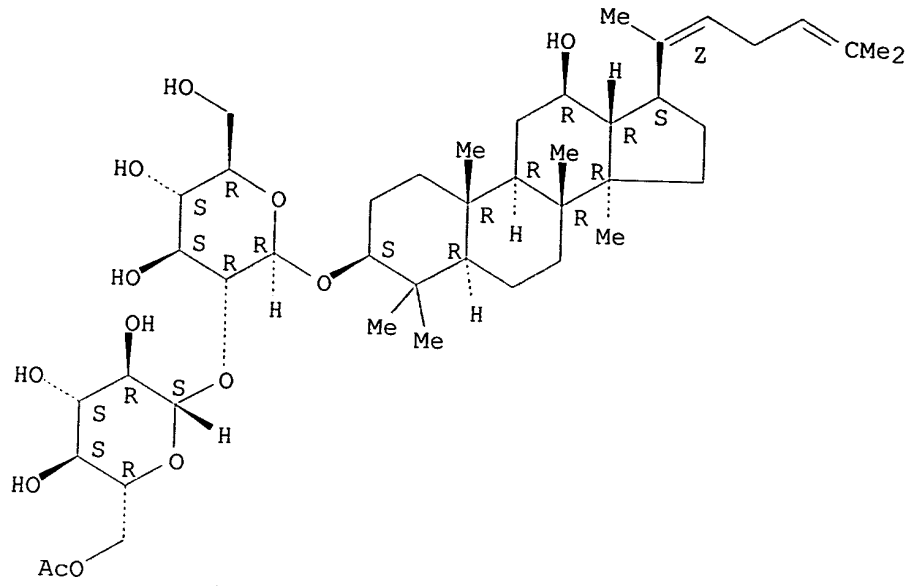
AB Title ginseng saponin oligosaccharides I (R = Ac, R1= OH, R2 = H; R = Ac, R1R2 = bond) were prepd. by acetylation of I (R = H, R1= OH, R2 = H; R = H, R1R2 = bond) with acetyl chloride in presence of 2,4,6-collidine under reduce pressure. I (R = Ac, R1= OH, R2 = H; R = Ac, R1R2 = bond) were tested for their antitumor activity and significantly inhibit the growth of hepatoma sk-Hep-1 cells (concn. of I = 0.01-10 .mu.M).

IT **195711-64-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of ginseng saponin oligosaccharides as antitumors)

RN 195711-64-9 HCAPLUS

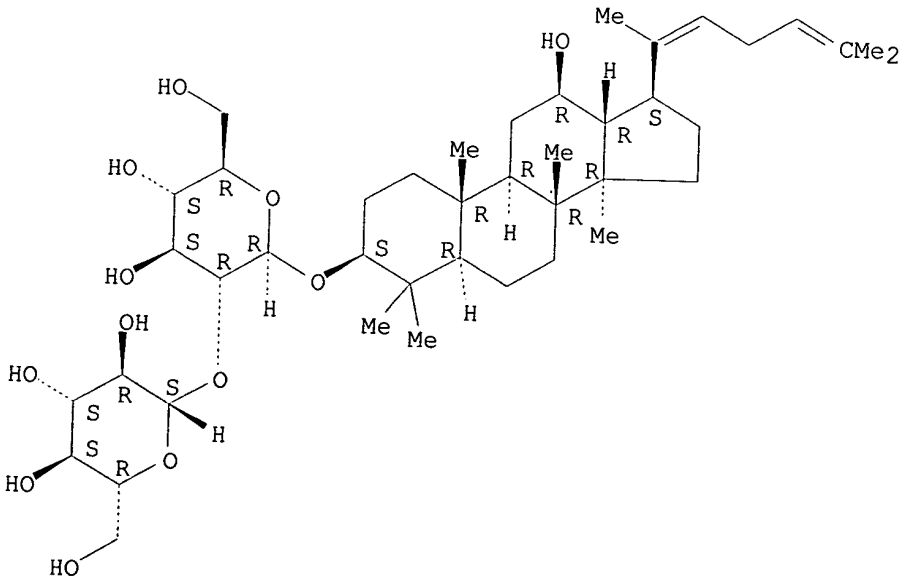
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-(6-O-acetyl-.beta.-D-glucopyranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **74964-14-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of ginseng saponin oligosaccharides as antitumors)
RN 74964-14-0 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L20 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:307396 HCAPLUS
DOCUMENT NUMBER: 126:325076
TITLE: Ginsenoside-Rg5 suppresses cyclin E-dependent protein kinase activity via up-regulating p21Cip/WAF1 and down-regulating cyclin E in SK-HEP-1 cells
AUTHOR(S): Lee, Kwang Youl; Lee, You Hui; Kim, Shin Il; Park, Jeong Hill; Lee, Seung Ki
CORPORATE SOURCE: College of Pharmacy, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: Anticancer Research (1997), 17(2A), 1067-1072
CODEN: ANTRD4; ISSN: 0250-7005
PUBLISHER: Anticancer Research
DOCUMENT TYPE: Journal
LANGUAGE: English

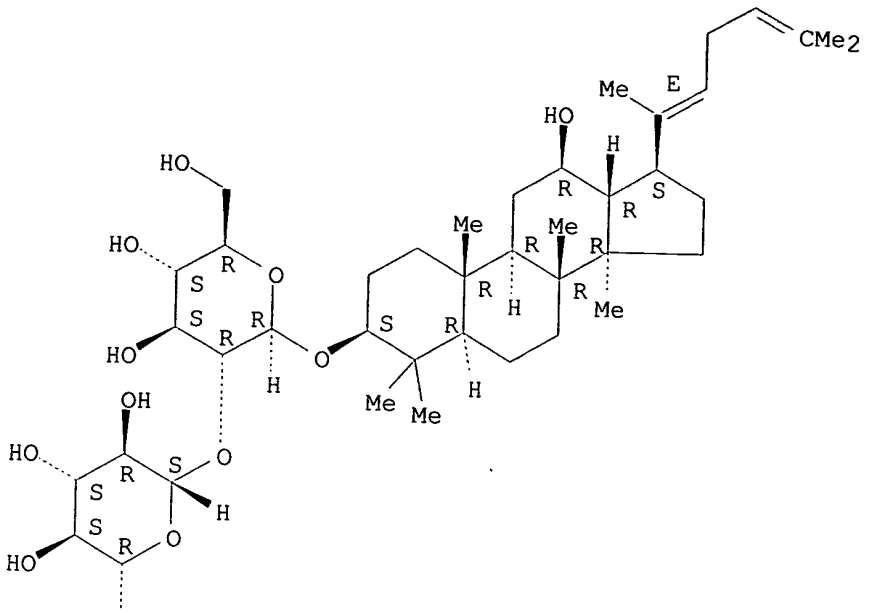
AB In the present study, we report that ginsenoside-Rg5 (G-Rg5), a newly discovered diol-contg. ginsenoside, blocks the cell cycle of human hepatoma SK-HEP-1 cells via the down-regulation of cyclin E-dependent kinase activity. The results from flow cytometric analyses show that G-Rg5 arrests the cell cycle of SK-HEP-1 cells at the G1/S transition phase. The cyclin E-dependent kinase activity that has been immunopptd. with cyclin E-specific antibody is down-regulated in response to G-Rg5. The results from immunoblottings show that the down-regulation of cyclin E-dependent kinase activity is related to increased protein levels of p21Cip/WAF1 and to decreased protein levels of cyclin E, CDK2, and CDC25A. Collectively, these data suggest that G-Rg5 blocks cell cycle of SK-HEP-1 cells at the G1/S transition phase by down-regulating cyclin E-dependent kinase activity and that the down-regulation of cyclin E-dependent kinase activity is caused mainly by induced CDK2 inhibitor, p21Cip/WAF1 and decreased levels of cyclin E.

IT **186763-78-0**, Ginsenoside-Rg5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenoside-Rg5 suppresses cyclin E-dependent protein kinase activity via up-regulating p21Cip/WAF1 and down-regulating cyclin E in SK-HEP-1 cells)

RN 186763-78-0 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L20 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:63985 HCAPLUS
DOCUMENT NUMBER: 126:142031
TITLE: Ginsenoside Rg5, a genuine dammarane glycoside from Korean red ginseng
AUTHOR(S): Kim, Shin Ii; Park, Jeong Hill; Ryu, Jae-Ha; Park, Jong Dae; Lee, You Hui; Park, Jae-Hyun; Kim, Tae-Hee; Kim, Jong Moon; Baek, Nam-In
CORPORATE SOURCE: Korea Ginseng and Tobacco Research Institute, Taejeon, 305-345, S. Korea
SOURCE: Archives of Pharmacal Research (1996), 19(6), 551-553
CODEN: APHRDQ; ISSN: 0253-6269
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A genuine dammarane glycoside, named ginsenoside Rg5, has been isolated by repeated column chromatog. and preparative HPLC from the MeOH ext. of Korean red ginseng (Panax ginseng C.A. Meyer). The chem. structure of ginsenoside Rg5 was detd. as 3-O-[.beta.-D-glucopyranosyl (1.fwdarw.2)-.beta.-D-glucopyranosyl] dammar-20(22),24-diene-3.beta.,12.beta.-diol by spectral and chem. methods. The stereostructure of a double bond at C-20(22) of ginsenoside Rg5 was characterized as (E)

from the chem. shift of C-21 in the 13C-NMR and a NOESY expt. in the 1H-NMR.

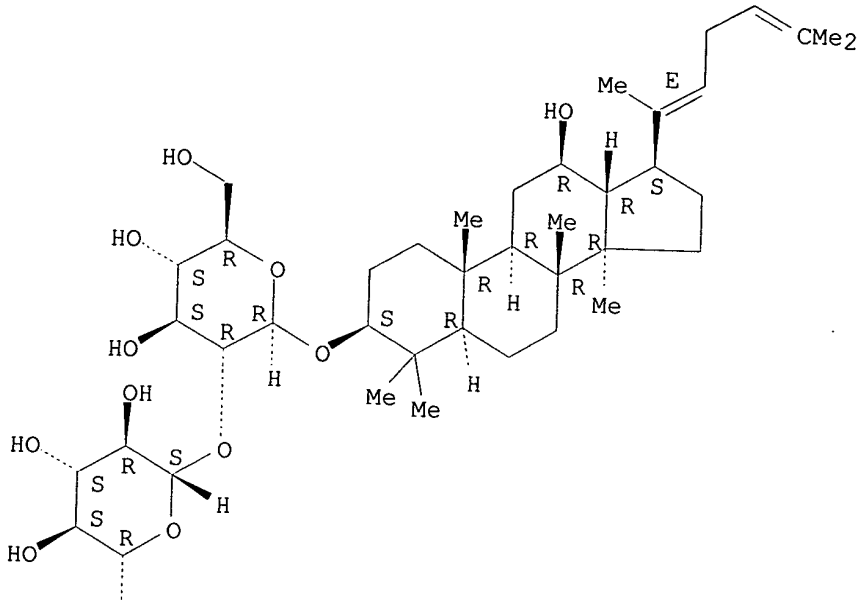
IT **186763-78-0P**, Ginsenoside Rg5
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(Ginsenoside Rg5, a genuine dammarane glycoside from Korean red ginseng)

RN 186763-78-0 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

IT **186752-35-2P**, Ginsenoside Rg5 heptaacetate
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of)

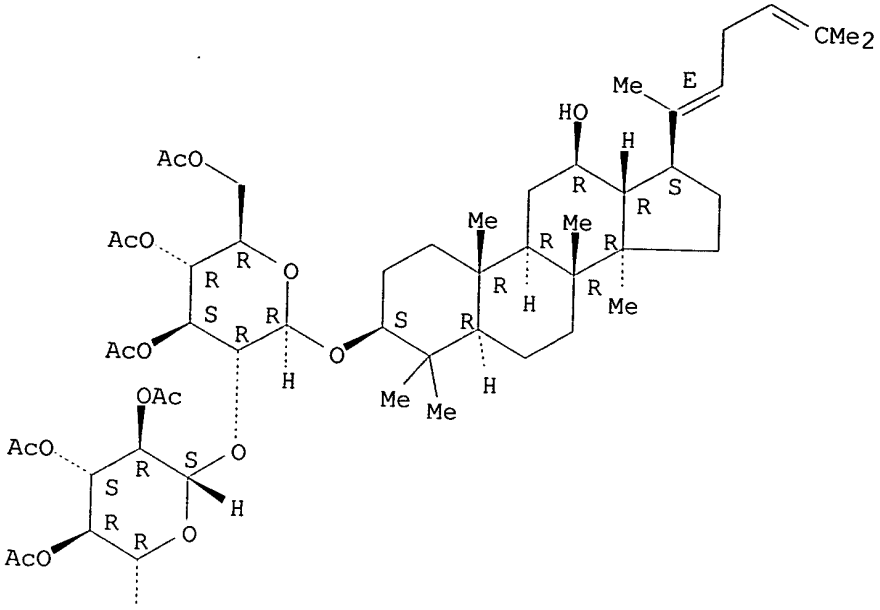
RN 186752-35-2 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)-, 3,4,6-triacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L20 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:41808 HCAPLUS
DOCUMENT NUMBER: 126:79904
TITLE: Anticancer sapogenin extraction from ginseng and pharmaceutical compositions containing the sapogenin
INVENTOR(S): Hasegawa, Hideo; Sei, Shokan; Matsumya, Tomoyuki; Uchama, Masamori
PATENT ASSIGNEE(S): Hatsupii Waarudo Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08291194	A2	19961105	JP 1995-115321	19950418

AB Extn. of anticancer sapogenins, quasipanaxadiol and quasipanaxatriol, from ginseng and pharmaceutical compns. contg. the sapogenin are claimed. Tablets were formulated contg. quasipanaxadiol 30 mg and lactose, cryst.

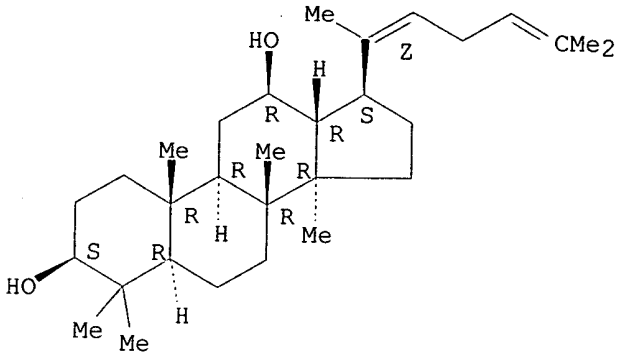
cellulose and magnesium stearate (200 mg/tablet). Both sapogenins inhibited the growth of leukemia cell P388 in cultures.

IT **166241-40-3P**, Quasipanaxadiol **171903-78-9P**, Quasipanaxatriol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer sapogenin extn. from ginseng and pharmaceutical compns. contg. the sapogenin)

RN 166241-40-3 HCAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3.beta.,12.beta.,20Z)- (9CI) (CA INDEX NAME)

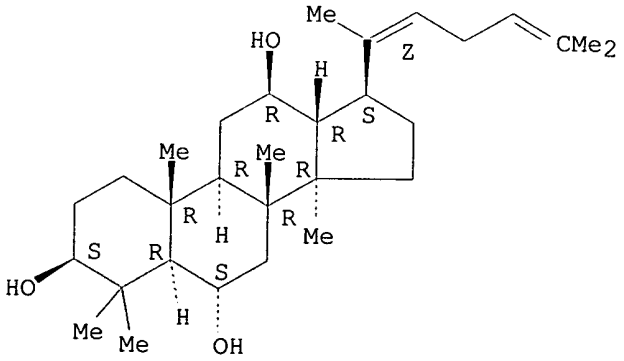
Absolute stereochemistry.
Double bond geometry as shown.



RN 171903-78-9 HCAPLUS

CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L20 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1996:431012 HCAPLUS

DOCUMENT NUMBER: 125:157877

TITLE: Effects of ginseng saponin on modulation of multidrug resistance

AUTHOR(S): Park, Jong-Dae; Kim, Dong-Sun; Kwon, Hyeok-Young; Son,

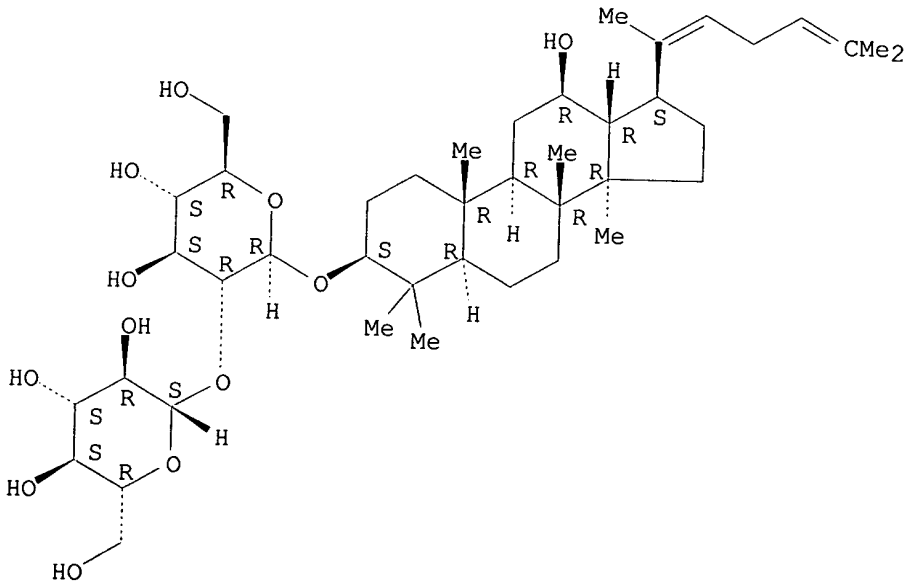
Sang-Kwon; Lee, You-Hui; Baek, Nam-In; Kim, Shin-Il; Rhee, Dong-Kwon
CORPORATE SOURCE: Korea Ginseng & Tobacco Research Institute, Taejon, 305-345, S. Korea
SOURCE: Archives of Pharmacal Research (1996), 19(3), 213-218
CODEN: APHRDQ; ISSN: 0253-6269
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Multidrug resistance (MDR) has been a major problem in cancer chemotherapy. To overcome this problem, the authors prepd. minor ginsenosides stereoselectively from ginseng saponins and searched for a ginseng component which is effective for inhibition of MDR. MDR inhibition activity was detd. by measuring cytotoxicity to MDR cells using multidrug resistant human fibrocarcinoma KB V20C, which is resistant to 20 nM vincristine and expresses high level of mdr1 gene. Of several ginseng components, 20(S)-ginsenoside Rg3, a red ginseng saponin, was found to have the most potent inhibitory activity on MDR and it's concn. capable of inhibiting 50% growth was 82 .mu.M.

IT **74964-14-0P**, Ginsenoside Rg31
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)

RN 74964-14-0 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

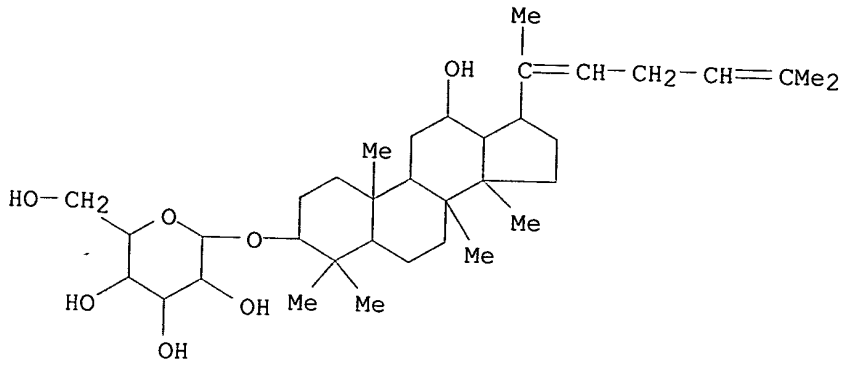
Absolute stereochemistry.
Double bond geometry unknown.



IT **105558-26-7**, Ginsenoside Rh3 **166241-39-0**, Quasiprotopanxadiol **174688-80-3**, Quasiprotopanaxatriol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES

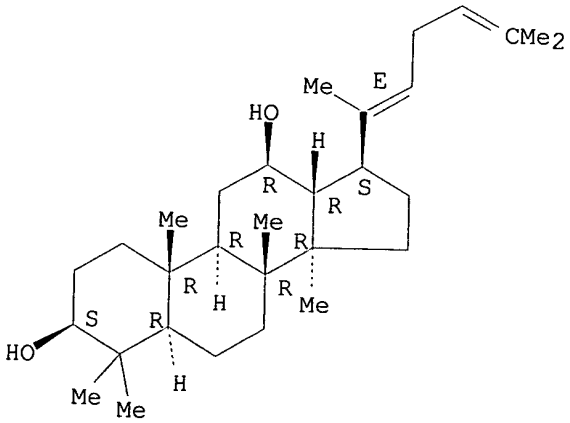
(Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)

RN 105558-26-7 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



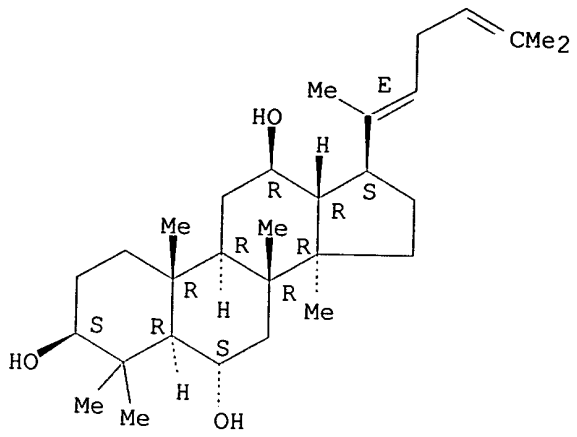
RN 166241-39-0 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3.beta.,12.beta.,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 174688-80-3 HCAPLUS
CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

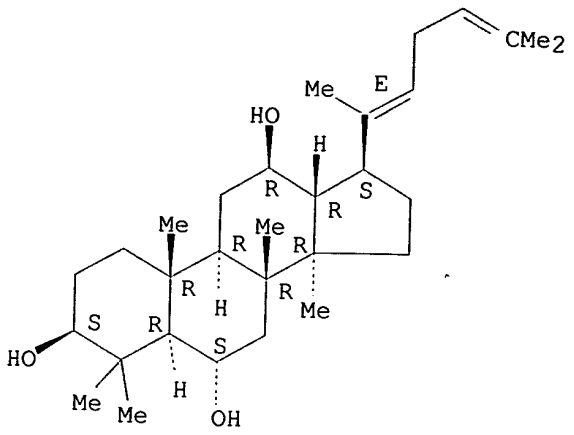


L20 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:171497 HCAPLUS
DOCUMENT NUMBER: 124:226602
TITLE: Ginsenoside Rh4, a genuine dammarane glycoside from Korean red ginseng
AUTHOR(S): Baek, Nam-In; Kim, Dong Seon; Lee, You Hui; Park, Jong Dae; Lee, Chun Bae; Kim, Shin Il
CORPORATE SOURCE: Korea Ginseng & Tobacco Research Inst., Taejeon, 305-345, S. Korea
SOURCE: Planta Med. (1996), 62(1), 86-7
CODEN: PLMEAA; ISSN: 0032-0943
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A genuine glycoside, named ginsenoside Rh4, was isolated from Korean red ginseng (Panax ginseng C. A. Meyer) through repeated column chromatog., and its chem. structure was established to be 6-O-.beta.-D-glucopyranosyldammar-20(22),24-diene-3.beta.,6.alpha.,12.beta.-triol by spectral and chem. methods. The stereochem. of a double bond at C-20(22) of ginsenoside Rh4 was characterized as (E) from a NOESY expt. in the 1H-NMR of the aglycon. Cyclotoxic activities of ginsenoside Rh4 and its aglycon against cancer cell lines were evaluated by use of the SRB method.

IT **174688-80-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. of)
RN 174688-80-3 HCAPLUS
CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



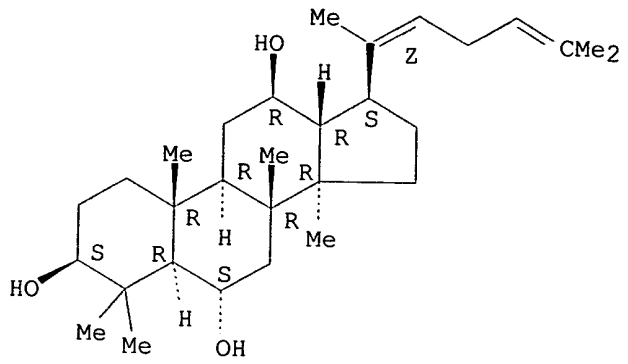
L20 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:927313 HCAPLUS
DOCUMENT NUMBER: 124:44955
TITLE: Reversal of daunomycin and vinblastine resistance in multidrug-resistant P388 Leukemia in vitro through enhanced cytotoxicity by triterpenoids
AUTHOR(S): Hasegawa, Hideo; Sung, Jong-Hwan; Matsumiya, Satoshi; Uchiyama, Masamori; Inouye, Yoshio; Kasai, Ryoji; Yamasaki, Kazuo
CORPORATE SOURCE: Itto Institute of Life Science Research, Happy World Inc., Tokyo, 183, Japan
SOURCE: Planta Med. (1995), 61(5), 409-1
CODEN: PLMEAA; ISSN: 0032-0943
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Examd. in vitro were the effects of some triterpenoids from Panax (Araliaceae) and Glycyrrhiza (Leguminosae) spp. on the sensitivity to daunomycin (DAU) and vinblastine (VBL) of adriamycin (ADM)-resistant P388 leukemia cells (P388/ADM), which were resistant to multiple anticancer drugs. Quasipanaxatriol, 20(S)-protopanaxatriol, ginsenoside Rh2, and compd. K greatly enhanced the cytotoxicity of the anticancer drugs in P388/ADM cells. The extent of enhancement was different among the triterpene compds.; the 4- to 46-fold increase in DAU cytotoxicity was obsd. in P388/ADM cells in the presence of non-toxic or marginally toxic concns. of individual compds., while those for VBL were in the ratios of 2- to 27-fold. The max. increase in cytotoxicity was obsd. with 50 .mu.m quasipanaxatriol; the resistance indexes defined to be the ratios of the IC50 values for P388/ADM and P388 parental cells decreased from 79 to 1.7 and from 180 to 4.9 in the cases of DAU and VBL, resp. The reversal of DAU resistance in P388/ADM by quasipanaxatriol could be explained by the effective accumulation of the drugs mediated by the DAU-efflux blockage.

IT **171903-78-9**, Quasipanaxatriol
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(reversal of daunomycin and vinblastine resistance in multidrug-resistant P388 leukemia in vitro through enhanced cytotoxicity by triterpenoids)

RN 171903-78-9 HCAPLUS
CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

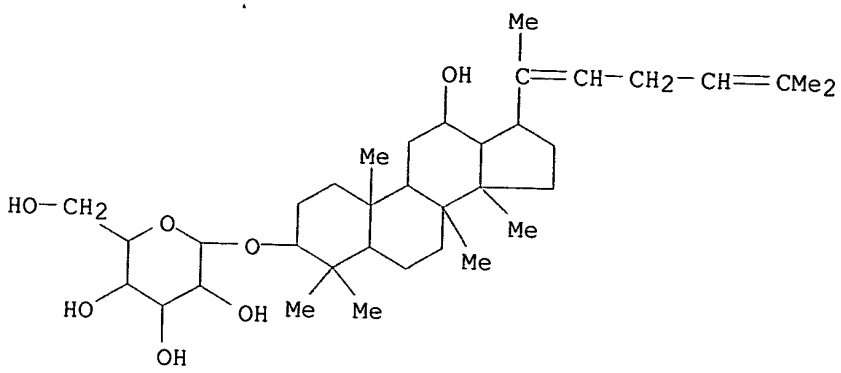


L20 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:712730 HCAPLUS
DOCUMENT NUMBER: 123:122844
TITLE: Preparation and structure determination of a new glycoside, (20E)-ginsenoside Rh3, and its isomer from diol-type ginseng saponins
AUTHOR(S): Kim, Dong Seon; Baek, Nam In; Park, Jong Dae; Lee, You Hui; Jeong, So Young; Lee, Chun Bae; Kim, Shin Il
CORPORATE SOURCE: College Natural Sciences, Chung Nam National University, Taejeon, 305-764, S. Korea
SOURCE: Yakhak Hoechi (1995), 39(1), 85-93
CODEN: YAHOA3; ISSN: 0513-4234
DOCUMENT TYPE: Journal
LANGUAGE: Korean

AB Acidic and alk. hydrolysis of diol-type ginseng saponins produced a new glycoside, (20E)-ginsenoside Rh3, and its stereoisomer (20Z), which were further subjected to alk. hydrolysis to give their aglycons, (20E)- and (20Z)-3.beta.,12.beta.-dihydroxydammar-20(22),24-diene. The ratio of stereoisomeric mixts. was estd. to be .apprx.5:1 from intensities of the peaks in 1H-and 13C-NMR spectra. The 1H- and 13C-NMR signals of ginsenoside Rh3, which have remained unclarified, were completely assigned by the extensive application of modern NMR techniques.

IT **105558-26-7P**, Ginsenoside Rh3 **166040-90-0P**
166241-39-0P 166241-40-3P
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(prepn. and structure detn. of ginsenoside Rh3 isomers from diol-type ginseng saponins)

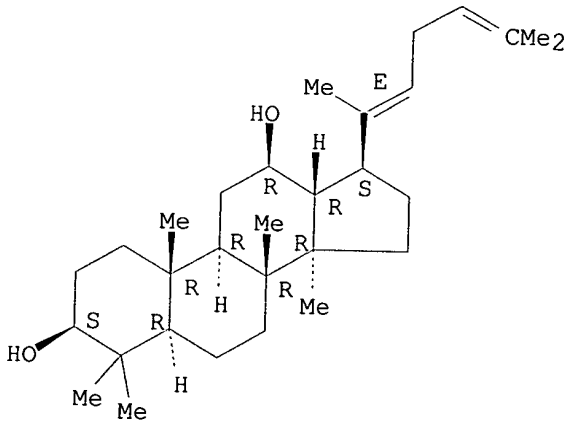
RN 105558-26-7 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



RN 166040-90-0 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)

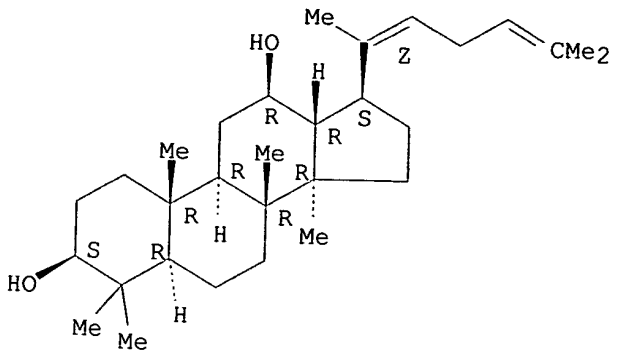
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 166241-39-0 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3.beta.,12.beta.,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

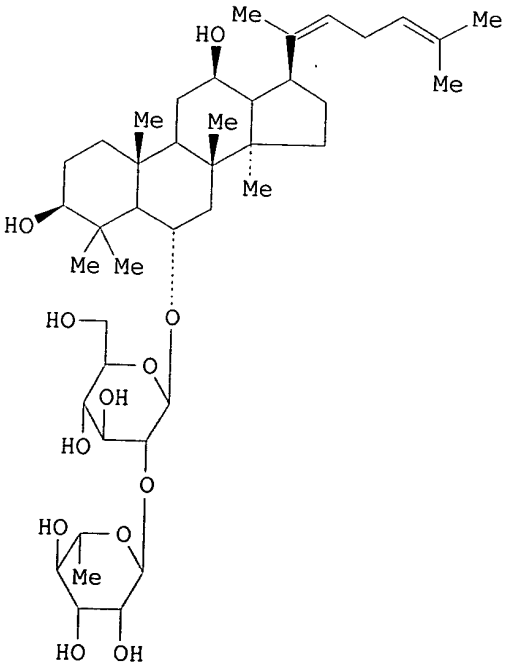


RN 166241-40-3 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3.beta.,12.beta.,20Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L20 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:627962 HCAPLUS
DOCUMENT NUMBER: 113:227962
TITLE: A new minor saponin from the leaves of Panax ginseng
AUTHOR(S): Zhang, Shaolin; Takeda, Tadahiro; Zhu, Tinru; Chen, Yingjie; Yao, Xinsheng; Tanaka, Osamu; Ogihara, Yukio
CORPORATE SOURCE: Dep. Phytochem., Shenyang Coll. Pharm., Peop. Rep. China
SOURCE: Planta Med. (1990), 56(3), 298-300
CODEN: PLMEAA; ISSN: 0032-0943
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



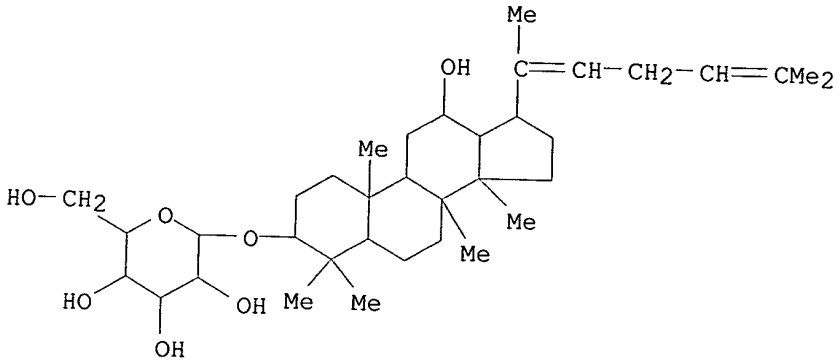
I

AB Seventeen compds. were isolated from the leaves of P. ginseng. Among them, a new minor saponin was established as ginsenoside F4 (I). Fourteen compds. were identified as 20(R)-protopanaxadiol, 20(R)-protopanaxatriol, ginsenoside-Rh3, 20(R)-ginsenoside-Rh2, 20(S)-ginsenoside-Rh2, ginsenoside-Rh1, -Rg3, -Rg2, Rg1, -Re, -Rd, -Rc, -Rb2, -Rb1; the others are still under investigation.

IT **105558-26-7**, Ginsenoside Rh3
RL: BIOL (Biological study)
(from Panax ginseng)

RN 105558-26-7 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L20 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1988:631403 HCAPLUS

DOCUMENT NUMBER: 109:231403

TITLE: Semisynthetic anlogs of ginsenosides, glycosides from ginseng

AUTHOR(S): Atopkina, L. N.; Denisenko, V. A.; Uvarova, N. I.; Elyakov, G. B.

CORPORATE SOURCE: Pac. Inst. Bioorg. Chem., Vladivostok, USSR

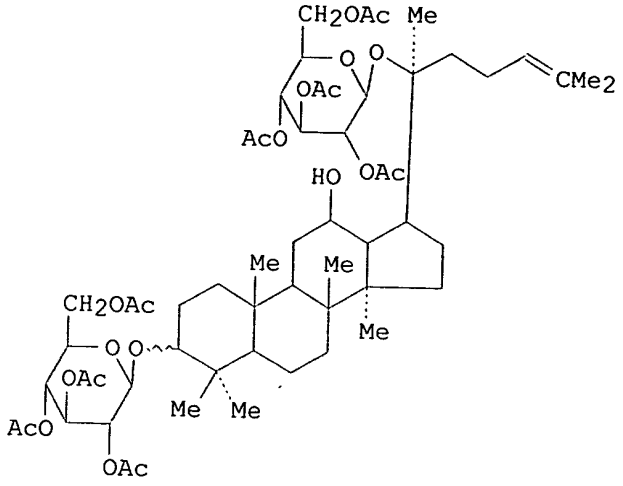
SOURCE: Carbohydr. Res. (1988), 177, 101-9
CODEN: CRBRAT; ISSN: 0008-6215

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:231403

GI



II

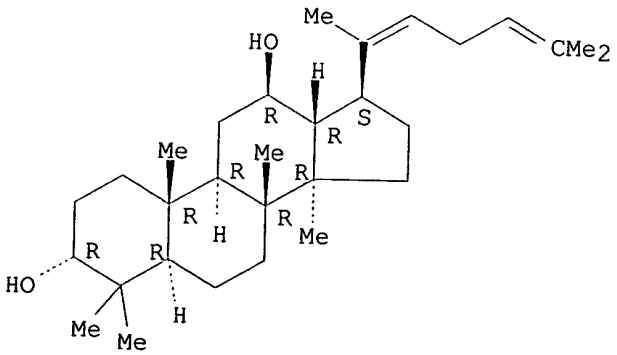
AB Glycosylation of dammar-24-ene-3,12.beta.,20(S)-triols with 2,3,4,6-tetra-O-acetyl-.alpha.-D-glucopyranosyl bromide (I) in the presence of silver oxide in dichloromethane gives a mixt. of the acetylated 3-, 12-, 20-, 3,12-di-, and 3,20-di-O-.beta.-D-glucopyranosyl derivs., e.g., II, in a total yield of 83-84.5%. Under similar conditions, the 3-O-acetyl derivs. of dammar-24-ene-3,12.beta.,20(S)-triols give a mixt. of 12- and 20-O-.beta.-D-glucopyranosyl derivs. Condensation of betulafolienetriol both with I in the presence of Hg(CN)2 in MeNO2 and with 3,4,6-tri-O-acetyl-.beta.-D-glucopyranose 1,2-(tert-Bu orthoacetate) in the presence of 2,4,6-trimethylpyridinium perchlorate in PhCl under azeotropic distn. results in dehydration and 20-dehydroxyglucosides are formed.

IT **108266-93-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 108266-93-9 HCAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3.alpha.,12.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

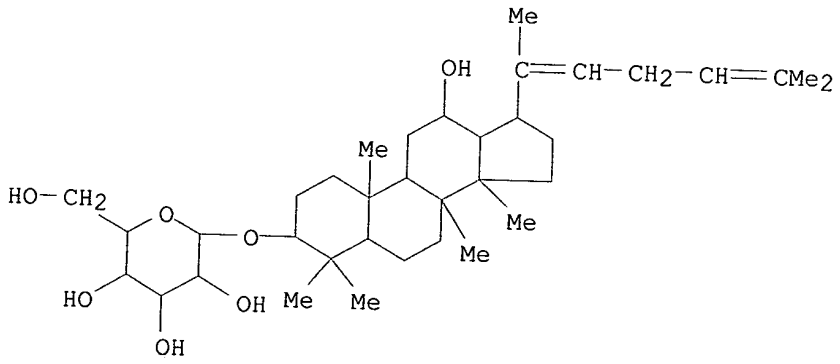


L20 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:147119 HCAPLUS
DOCUMENT NUMBER: 108:147119
TITLE: Minor saponins from the leaves of Panax ginseng C.A.Meyer
AUTHOR(S): Chen, Yingjie; Xu, Suixu; Ma, Qifeng; Yao, Xinsheng; Ogihara, Yukio; Takeda, Tadahiro
CORPORATE SOURCE: Shenyang Coll. Pharm., Shenyang, Peop. Rep. China
SOURCE: Shenyang Yaoxueyuan Xuebao (1987), 4(4), 282-9
CODEN: SYXUE3
DOCUMENT TYPE: Journal
LANGUAGE: English

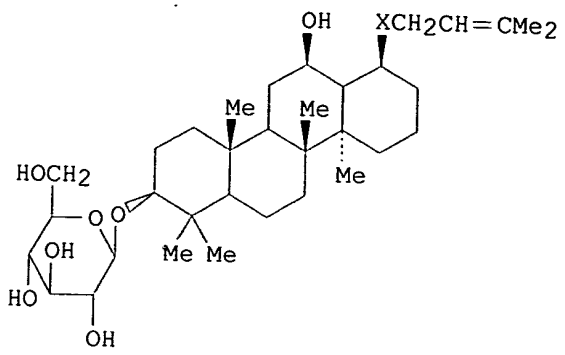
AB Five minor compds. isolated from the leaves of P. ginseng were characterized as 20(R)-protopanaxatriol, daucosterin, 3.beta.,12.beta.-dihydroxy-dammar-20(22),24-diene-3-O-.beta.-D-glucopyranoside (I), 20(R)-protopanaxadiol-3-O-.beta.-D-glucopyranoside (II), and ginsenoside Rh2, resp., on the basis of spectral analyses and chem. evidence. The two new saponins, I and II, were named as ginsenoside Rh3 and 20(R)-ginsenoside Rh2. Nine other major saponins obtained simultaneously were identical with ginsenoside Rh1, -Rg3, -Rg2, -Rg1, -Re, -Rd, -Rc, -Rb2 and Rb1 resp.

IT **105558-26-7**, Ginsenoside Rh3
RL: BIOL (Biological study)
(from ginseng leaves, isolation and identification of)

RN 105558-26-7 HCAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L20 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:43892 HCAPLUS
DOCUMENT NUMBER: 108:43892
TITLE: New minor saponins isolated from leaves of Panax ginseng C. A. Meyer
AUTHOR(S): Chen, Yingjie; Xu, Suixu; Ma, Qifeng; Pei, Yuping; Xie, Hua; Yao, Xinsheng
CORPORATE SOURCE: Shenyang Coll. Pharm., Shenyang, Peop. Rep. China
SOURCE: Yaoxue Xuebao (1987), 22(9), 685-9
CODEN: YHHPAL; ISSN: 0513-4870
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
GI



I, X=CMe=CH

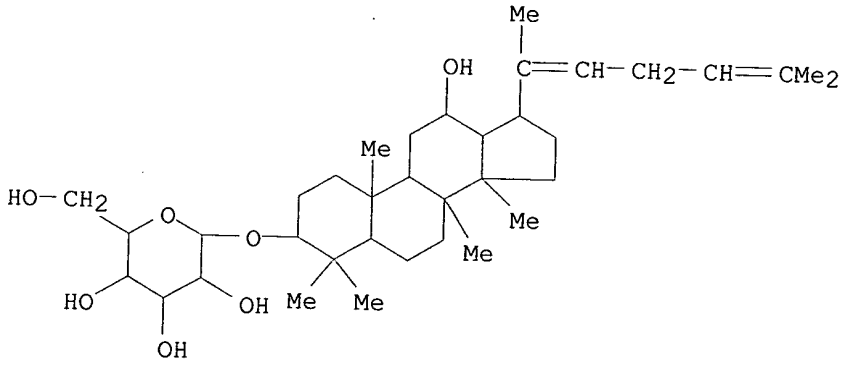
II, X=20R-CMe(OH)CH2

AB Four minor compds. was isolated from the leaves of P. ginseng and characterized as 20(R)-protopanaxatriol, daucosterin, ginsenoside Rh3 (I), and 20R-ginsenoside Rh2 (II).

IT **105558-26-7**, Ginsenoside Rh3
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(of Panax ginseng leaves)

RN 105558-26-7 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L20 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1987:423596 HCAPLUS

DOCUMENT NUMBER: 107:23596

TITLE: Glycosylation of dammarane type triterpenoids. IV. .beta.-D-Glucopyranosides of betulafolienetriol and its derivatives

AUTHOR(S): Atopkina, L. N.; Denisenko, V. A.; Novikov, V. L.; Uvarova, N. I.

CORPORATE SOURCE: Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR

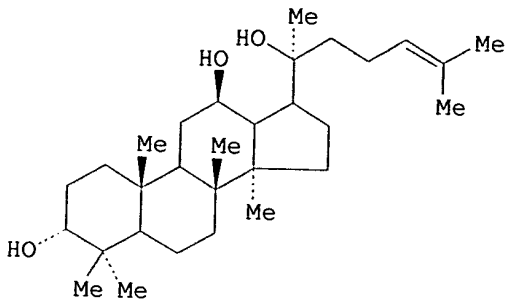
SOURCE: Khim. Prir. Soedin. (1986), (3), 301-12
CODEN: KPSUAR; ISSN: 0023-1150

DOCUMENT TYPE: Journal

LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 107:23596

GI



I

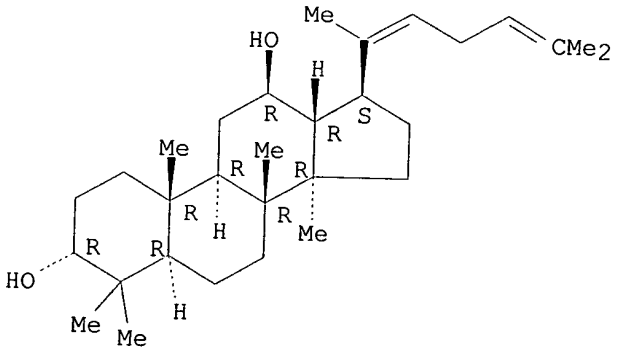
AB Koenigs-Knorr glycosidation of betulafolienetriol (I) gave 3-, 12-, 20-mono- and 3,12-, 3,20-di-O-.beta.-D-glucopyranosides and 3-epimers. Glycosidation by the Helferich reaction or by the orthoester method was accompanied by a dehydration reaction in the side chain which led to the corresponding 20-dehydroxy derivs.

IT **108266-93-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 108266-93-9 HCAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3.alpha.,12.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L20 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1987:2889 HCAPLUS

DOCUMENT NUMBER: 106:2889

TITLE: New minor constituents of leaves of Panax ginseng C. A. Meyer

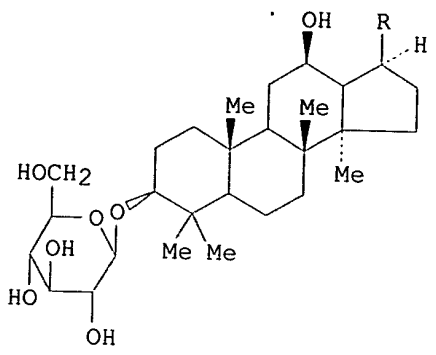
AUTHOR(S): Chen, Yingjie; Xie, Hua; Xu, Suixu; Ma, Qifeng; Pei, Yuping; Yao, Xinsheng

CORPORATE SOURCE: Dep. Phytochem., Shenyang Coll. Pharm., Shenyang, Peop. Rep. China

SOURCE: Shenyang Yaoxueyuan Xuebao (1986), 3(3), 191
CODEN: SYXUE3

DOCUMENT TYPE: Journal

LANGUAGE: Chinese
GI



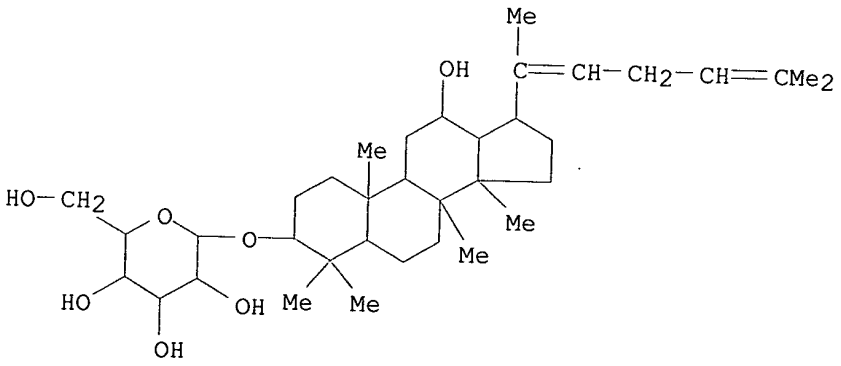
I, R=C(Me)OH(CH2)2CH=CMe2
II, R=C(Me)=CHCH2CH=CMe2

AB Ginsenoside Rh2 (I) and ginsenoside Rh3 (II), 2 novel ginsenosides, were identified from P. ginseng with IR, NMR, and mass spectrometry. Ginsenosides Rh1, Rg3, Rg2, Rg1, Re, Rd, Rc, Rb2, and Rb1 were also detected.

IT **105558-26-7**
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(of Panax ginseng)

RN 105558-26-7 HCAPLUS

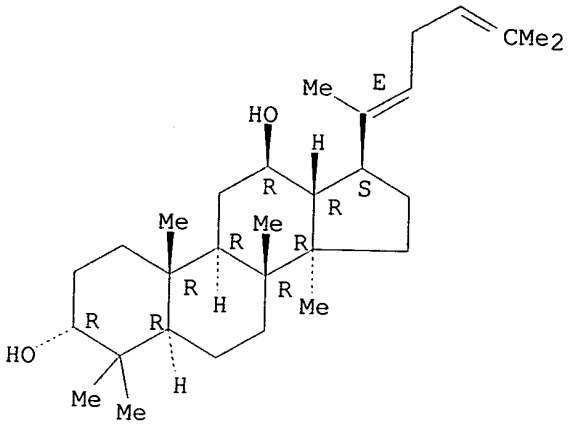
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L20 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:192109 HCAPLUS
DOCUMENT NUMBER: 100:192109
TITLE: Effects of side chains at C17 on carbon-13 chemical shifts of dammarane-type tetracyclic triterpenoids
AUTHOR(S): Denisenko, V. A.; Novikov, V. L.; Malinovskaya, G. V.; Elyakov, G. B.
CORPORATE SOURCE: Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR
SOURCE: Izv. Akad. Nauk SSSR, Ser. Khim. (1983), (12), 2727-34
CODEN: IASKA6; ISSN: 0002-3353

DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Carbon-13 NMR of 24 dammarane derivs. confirmed that the effect of the side chain at C-17 on chem. shifts is related to the intramol. H bond between a C-12 OH group and an OH or epoxy group at C-20. .alpha.17-, .beta.13-, And .beta.16-effects are also obsd.
IT **89951-13-3**
RL: PRP (Properties)
(carbon-13 NMR of, effect of side chain on)
RN 89951-13-3 HCAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3.alpha.,12.beta.,20E)- (9CI) (CA INDEX NAME)

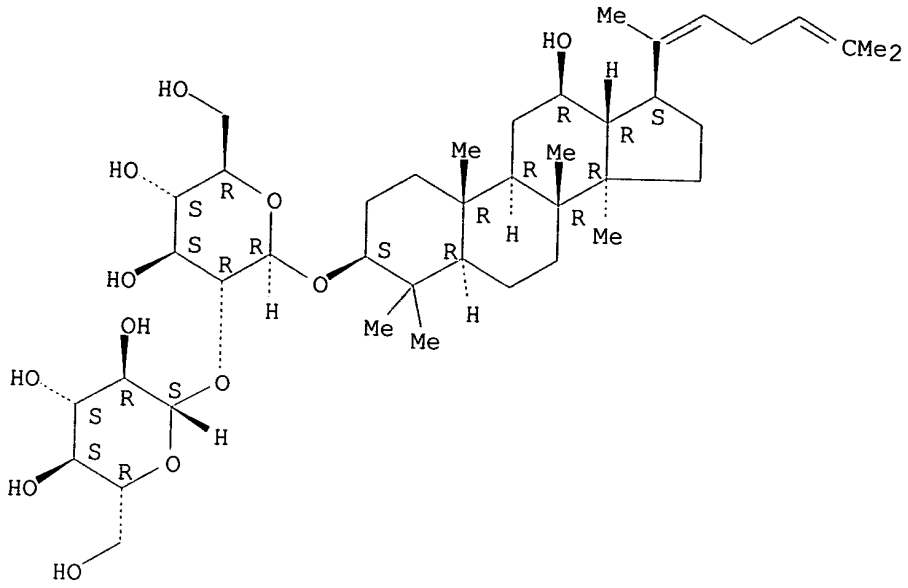
Absolute stereochemistry.
Double bond geometry as shown.



L20 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:586729 HCAPLUS
DOCUMENT NUMBER: 93:186729
TITLE: Isolation and characterization of ginsenoside-Rg2, 20R-prosapogenin, 20S-prosapogenin and .DELTA.20-prosapogenin. Chemical studies on saponins of Panax ginseng C. A. Meyer, Third report
AUTHOR(S): Kaku, T.; Kawashima, Y.
CORPORATE SOURCE: Cent. Res. Lab., Yamanouchi Pharm. Co., Ltd., Tokyo, Japan
SOURCE: Arzneim.-Forsch. (1980), 30(6), 936-43
CODEN: ARZNAD; ISSN: 0004-4172
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ginsenoside Rg2, isolated from the lateral roots of Panax ginseng, and chikusetsusaponin I, isolated from rhizome of Panax japonicus, were identical in all respects and both had (-) optical rotation which is opposite to the published data. Hydrolysis of a mixt. of ginsenoside Rb1, Rb2, and Rc with 50% aq. AcOH gave 3 compds., which were identified as 20R-prosapogenin (I), 20S-prosapogenin, and .DELTA.20-prosapogenin. I was identical with ginsenoside Rg3.
IT **74964-14-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 74964-14-0 HCAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



=> d bib abs 1

L22 ANSWER 1 OF 2 MEDLINE
AN 1998274709 MEDLINE
DN 98274709 PubMed ID: 9611775
TI Ginsenoside Rh2 and Rh3 induce differentiation of HL-60 cells into granulocytes: modulation of protein kinase C isoforms during differentiation by ginsenoside Rh2.
AU Kim Y S; Kim D S; Kim S I
CS Korea Ginseng and Tobacco Research Institute, Yousong-Gu, Taejon, South Korea.
SO INTERNATIONAL JOURNAL OF BIOCHEMISTRY AND CELL BIOLOGY, (1998 Mar) 30 (3) 327-38.
Journal code: 9508482. ISSN: 1357-2725.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199807
ED Entered STN: 19980723
Last Updated on STN: 19980723
Entered Medline: 19980710
AB Ginsenoside Rh1 or Rh2 differentiated B16 melanoma or F9 teratocarnoma to phenotypic normal melanocyte-like cells or parietal endoderm-like cells. Ginsenoside Rh3 and Rh4 were recently isolated from Panax ginseng, but their biochemical and pharmacological effects remain unidentified. The present study investigated whether the ginsenoside Rh group (G-Rh1, -Rh2, -Rh3 and -Rh4) having similar structures induce differentiation of HL-60 cells and whether protein kinase C (PKC) is involved in differentiation by ginsenoside. Differentiation was assessed by Wright-Giemsa stain and nitroblue tetrazolium reduction. G-Rh2 and G-Rh3 induced differentiation of HL-60 cells into morphologically and functionally granulocytes but G-Rh1 and G-Rh4 did not. G-Rh2 and G-Rh3 arrested the cell cycle at the G1/S phase, consistent with the ability to induce differentiation in a decreasing order of retinoic acid > G-Rh2 > G-Rh3. During differentiation by G-Rh2, Ca2+/phospholipid-dependent PKC activity was increased in both the cytosol and total cell extract and Ca2+/phospholipid-dependent phosphorylation of 38 and 200 kDa endogenous proteins increased, while phosphorylation of 60, 64, 66 and 97 kDa proteins was Ca2+/phospholipid-independent. When cytosolic PKC isoforms were analyzed by immunoblotting, no significant change was observed in the alpha level, however, the immunoreactive 60 kDa band of a similar mass to the PKC catalytic fragment appeared following treatment with G-Rh2. The beta isoform was gradually increased with prolonged treatment. The gamma isoform was not detected in the cytosol of untreated cells, whereas a small amount was detected 5 days after treatment. It is concluded that G-Rh2 and G-Rh3 can induce differentiation of HL-60 cells into granulocytes and modulation of PKC isoform levels may contribute to differentiation of HL-60 cells by G-Rh2.

=> d kwic

L22 ANSWER 1 OF 2 MEDLINE
RN **105558-26-7 (ginsenoside Rh3)**; 302-79-4 (Tretinoin); 78214-33-2 (ginsenoside Rh2)

=> d bib abs kwic 2

L22 ANSWER 2 OF 2 MEDLINE
AN 88180344 MEDLINE
DN 88180344 PubMed ID: 3445760
TI Studies on new minor saponins isolated from leaves of Panax ginseng C. A. Meyer.
AU Cheng Y J; Su S X; Ma Q F; Pei Y P; Xie H; Yao X S
SO YAO HSUEH HSUEH PAO [ACTA PHARMACEUTICA SINICA], (1987 Sep) 22 (9) 685-9. Journal code: 21710340R. ISSN: 0513-4870.
CY China
DT Journal; Article; (JOURNAL ARTICLE)
LA Chinese
FS Priority Journals
EM 198804
ED Entered STN: 19900308
Last Updated on STN: 19900308
Entered Medline: 19880428
RN **105558-26-7 (ginsenoside Rh3)**; 78214-33-2 (ginsenoside Rh2)

=> d all

L23 ANSWER 1 OF 1 NAPRALERT COPYRIGHT (C) 2002 BD. TRUSTEES, U. IL.
AN 92:90989 NAPRALERT
DN T13589
TI STUDIES ON NEW MINOR SAPONINS ISOLATED FROM LEAVES OF PANAX GINSENG C.A.MEYER
AU CHEN Y J; SU S X; MA Q J; PEI Y P; XIE H; YAO X S
CS SHENYANG COLL PHARM, SHENYANG CHINA
SO YAO HSUEH HSUEH PAO (1987) 22 (9) p. 685-689.
DT (Research paper)
LA CHINESE
CHC 1976
ORGN Class: DICOT Family: ARALIACEAE Genus: PANAX Species: GINSENG [C.A.MEYER]
Organism part: DRIED LEAF
Geographic area (GT): CHINA; EAS
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RH-3
CAS Registry Number (RN): **105558-26-7**
Class identifier (CI): TRITERPENE
Yield: 00.00050%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RH-2,20(R)
Class identifier (CI): TRITERPENE
Yield: 00.00100%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): PANAXATRIOL,PROTO: 20(R)
CAS Registry Number (RN): 1453-93-6
Class identifier (CI): TRITERPENE
Yield: 00.00125%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): DAUCOSTERIN
Class identifier (CI): TRITERPENE
Yield: 00.00038%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RH-1
CAS Registry Number (RN): 63223-86-9
Class identifier (CI): TRITERPENE
Yield: 00.00125%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE F
Class identifier (CI): TRITERPENE
Yield: 00.00125%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RG-3
CAS Registry Number (RN): 14197-60-5
Class identifier (CI): TRITERPENE
Yield: 00.00250%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RG-2
CAS Registry Number (RN): 52286-74-5
Class identifier (CI): TRITERPENE
Yield: 00.03175%
COMPOUND. Chemical name (CN): GINSENOSIDE RG-1
CAS Registry Number (RN): 22427-39-0
Class identifier (CI): TRITERPENE
Yield: 00.03175%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RG-1

CAS Registry Number (RN): 22427-39-0
Class identifier (CI): TRITERPENE
Yield: 00.00050%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RE
CAS Registry Number (RN): 52286-59-6
Class identifier (CI): TRITERPENE
Yield: 00.00150%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RD
CAS Registry Number (RN): 52705-93-8
Class identifier (CI): TRITERPENE
Yield: 00.00300%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RC
CAS Registry Number (RN): 11021-14-0
Class identifier (CI): TRITERPENE
Yield: 00.01250%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RB-2
CAS Registry Number (RN): 11021-13-9
Class identifier (CI): TRITERPENE
Yield: 00.00175%
TYPE OF STUDY (STY): ISOLATION.
COMPOUND. Chemical name (CN): GINSENOSIDE RB-1
CAS Registry Number (RN): 41753-43-9
Class identifier (CI): TRITERPENE
Yield: 00.00150%